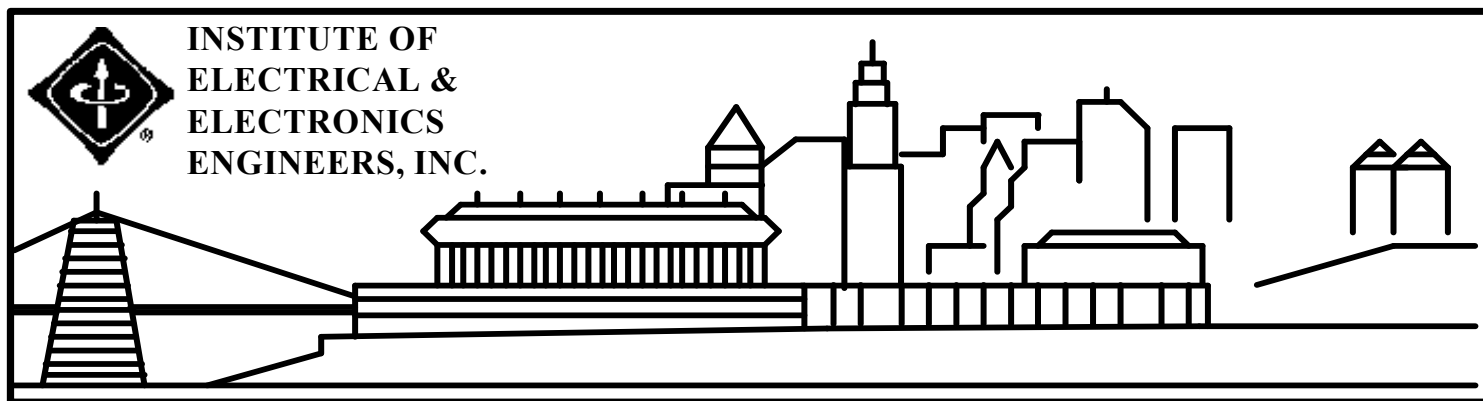




NOVEMBER/DECEMBER 1994

IEEE CINCINNATI SECTION NEWSLETTER

DECEMBER MEETING

The Internet - Resources for Teaching and Learning

DATE: THURSDAY, DECEMBER 8, 1994

PLACE: Institute of Advanced Manufacturing Sciences (IAMS)

TIME : 5:30 (Social Time)

6:00 (Dinner)

7:00 (Program)

8:30 (Approx. - Adjourn)

COST: \$7.00 Members

3.00 Students

9.00 Non-Members

Reservations are required for dinner only!

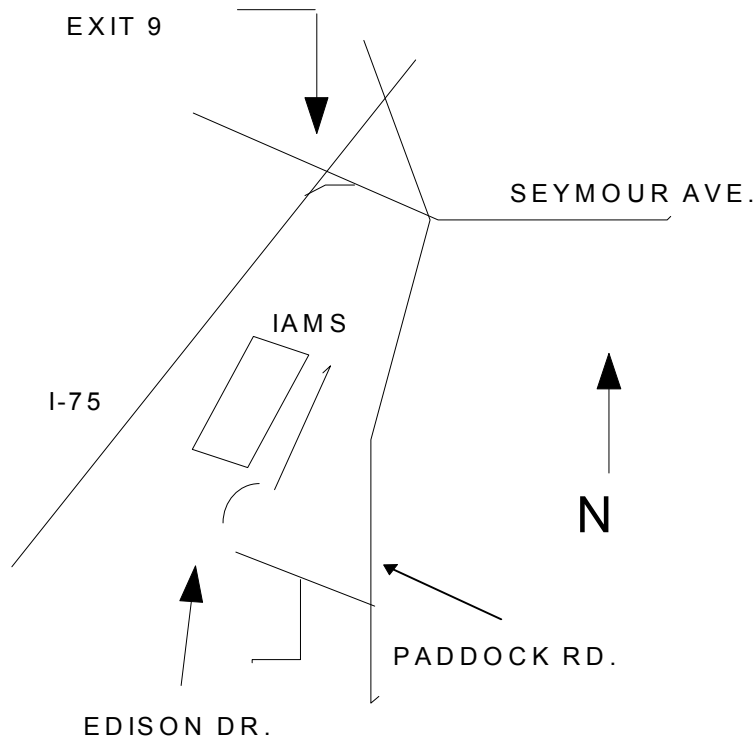
Please call Dee Scott at

385-9446 by NOON, Wed. Dec. 7th

ABOUT THE PRESENTATION

Many colleges and universities are now using a global electronic network, the Internet, as a teaching and learning tool. Students and faculty are discovering that the Internet eliminates geography as a factor in their search for information resources. This presentation is an introductory overview of the Internet focusing on the Internet facilities that we have found more useful in education. Topics discussed will include the use of electronic mail, file transfers, remote logins, the Worldwide Web, and the searching and browsing mechanisms available on the Internet

MAP TO IAMS



WINDOWS 95 PRESENTATION JANUARY 26, 1995 MEETING

To get a better idea of our room requirements for this upcoming meeting, please call Dee Scott at 385-9446 ASAP if you plan to attend.

THANKS!

CHAIRMAN'S MESSAGE

by Jim Everly

Last month's program featured IBM RISC System (RS)/6000 team leader Mr. Mike Hitchcock. Mike presented an overview of PowerPC technology together with his view of how the PowerPC marketplace will evolve. A special thanks goes to Mike for his technical contribution to the Cincinnati Section.

The November/December meeting of the Cincinnati Section will be held on Thursday, December 8, 1994, in the Seminar A room at IAMS. The meeting features two University of Cincinnati

Professors who have spent considerable time on the *Internet*. The featured speakers are Professor Lawrence Waldrop of Raymond Walters College and Professor Ronald Ciminero of the College of Applied Science. The program highlights features of the Internet for those just getting started together with applications of how the Internet is being used in higher education. This program will be slightly longer than the nominal "one hour", but it will be well worth your time. As a bonus we will provide "hand out materials" for those in attendance. If you already have considerable experience, come anyway. I guarantee that you will pick up some pointers from these experts.

Our January meeting is being arranged by Executive Committee member Randy Holt of NKU. The meeting features a special preview of Microsoft Windows 95. Randy has arranged for Mr. Todd MacDonald , an experienced Microsoft Systems Engineer and graduate of Xavier University, to discuss and demonstrate the successor to Windows 3.x. The program will showcase how Microsoft Windows 95 will make Windows easier to install, support, manage and use. The meeting will be conducted in a lecture demonstration format covering topics ranging from Design Goals and Architecture, to Mobile Computing Capabilities. This meeting will provide section members with a sneak preview into the future of Microsoft's desktop operating system.

The agenda for the Fall meeting of the Executive Committee is included in this Newsletter. Please note under the *New Business Section* that an additional name has been added to the list of IEEE members serving on the IEEE/ISA Conference Committee. Mr. Larry Hyer has been involved with the conference for many years, and I am glad he brought this oversight to my attention.

The Executive Committee position of Program Chairman was renamed Arrangements Chairman, and Mr. Jack Beckmeyer of the Cincinnati Section volunteered for the job. Jack's name and telephone number now appear on the back of the Newsletter.

Please note that a ballot for the election of 1995 Section Officers is enclosed with this month's Newsletter. This is your opportunity to choose the individuals that will lead our IEEE Cincinnati Section in 1995. ***Please be sure to vote; this is your organization.*** As always, your comments and suggestions are greatly appreciated.

The following was contributed by R. J. Reiman and is from the Summer 1994 issue of "The History of Electrical Engineering Newsletter"

TWO NEW MILESTONES

POULSEN ARC TRANSMITTER

On the afternoon of Saturday 28 May 1994, at the Lyngby Radio Station just north of Copenhagen, the Danish IEEE Section held a dedication ceremony for an IEEE Electrical Engineering Milestone in honor of a path-breaking radio transmitter. IEEE President-Elect James T. Cain represented the IEEE Executive Committee at the ceremony, which was held in conjunction with the IEEE Region 8 meeting in Copenhagen.

In the early days of wireless, messages were encoded in dots and dashes and sent by spark transmitters. Conveying voice or music by radio required a continuous-wave (CW) transmitter, and the first successful CW transmitter was the invention of the Danish engineer Valdemar Poulsen. Poulsen was already known for another invention, the Telegraphone, the world's first functional magnetic recorder, patented in 1899.

Poulsen's invention of the arc transmitter built upon the work of the English engineer William Duddell, who had discovered how to make a resonant circuit using a carbon-arc lamp. Duddell's "musical arc" operated at audio frequencies, and Duddell himself concluded that it was impossible to make the arc oscillate at radio frequencies. In 1902, however, Poulsen succeeded in doing just that -- by modifying the electrodes, placing the arc in an atmosphere of hydrocarbon vapor or pure hydrogen, and adding a transverse magnetic field.

Poulsen's transmitter was used worldwide in the second and third decades of the century until it was displaced by transmitters that employed the vacuum tube as a generator of continuous waves.

KDKA

When Frank Conrad, a Westinghouse engineer, returned to his amateur-radio hobby that he had set aside during World War I, he used a vacuum-tube continuous-wave transmitter. This meant he could send speech and music, rather than the Morse Code to which he had previously been limited. He played records over the air and built up a large following among amateurs. In 1920 Harry P. Davis, a Westinghouse vice president, decided that Conrad's transmissions were an excellent way to stimulate the sale of radio equipment, and on 16 October Westinghouse asked the Department of Commerce for a special license to begin regular broadcasting. Thus was born Station KDKA, whose first transmission, broadcast on a wavelength of 360 meters at 100 watts on the evening of 2 November, reported returns of the Presidential election between Warren G. Harding and James M. Cox. Within a year seven other licensed stations followed KDKA's lead, and within two years there were almost 500 stations in the U.S.; by the end of the decade most U.S. homes contained a radio receiver.

On Friday 17 June an IEEE Electrical Engineering Milestone plaque was dedicated to honor the pioneering broadcasting station KDKA. The IEEE Pittsburgh Section nominated the achievement and conducted the dedication ceremony. The IEEE Executive Committee was represented by Past-President Martha Sloan. Milestones Coordinator, Charles R. Wright, also spoke at the ceremony. The plaque citation called attention to the role played by Davis and Conrad as well as the significance of amateur radio in the establishment of regular radio broadcasting.

World War II had brought the growth of television broadcasting to a halt, but it stimulated advancements in television technology. At the end of the war, the television industry began gearing up for production. RCA, GE and Dumont began designs of studio and transmitting equipment. AT&T was busy constructing its L-I coaxial cable network which was capable of distributing television programs throughout the country. The FCC announced it would begin accepting applications for commercial television stations.

Because of the higher cost of TV station equipment compared to radio equipment, the larger operating costs including staff, the lack of facilities to distribute TV programs, and the few TV sets in use by the public, only a few stations went on the air. Six were on the air in 1946 and four more in 1947. A further problem existed: Should the broadcasts be monochrome or color?

William Paley of CBS, a brilliant business leader, and Peter Goldmark, CBS' senior engineering executive, were proponents of the field sequential color TV system, which had continued development during the war. It was a mechanical system that used rotating color wheels at the camera and the receiver. It was capable of producing attractive pictures with brilliant color up to a limited extent. Would RCA telecast with monochrome? If so, what set should the public buy? CBS went ahead with color and petitioned the FCC for authorization of commercial TV, while RCA did the same with monochrome.

This set off a standards battle similar to the one on radio broadcasting, but CBS stood alone, with RCA and the others opting for monochrome. The FCC ruled that the CBS color system, and the UHF band were not sufficiently perfected to begin commercial broadcasting. With the way clear, on-the-air stations increased until 124 were authorized by 1952. The public was buying sets with enthusiasm with RCA leading the way.

The FCC began to hear complaints of co-channel interference with "venetian" bands appearing on the set as a result of interference. RCA tried detuning the carrier frequency of one of the co-channels, and this made the offending "blinds" barely visible. The FCC ban on further allocations addressed frequency assignment policies and color transmission standards and lasted four years until April 11, 1952. After a number of attempts which were bitterly criticized, the FCC's Sixth Report and Order was favorably received. The report achieved the elimination of serious interference between co-channel and adjacent channel stations, it opened up the UHF band for broadcasting, and its reallocation of VHF for crowded centers like New York City and Chicago, opened up the way for a third network, ABC, to compete with NBC and CBS. The number of VHF stations alone increased to over 500 commercial and 100 public stations and this was matched by the sales of receivers with almost 70 million sold by 1965.

The development of UHF would take time and color TV would replace monochrome.

IEEE NEWS

IEEE-USA, SPIE LAUNCH SECOND HEALTH CARE SYMPOSIUM

WASHINGTON, Sept. 23 -- The United States Activities division of IEEE-USA and SPIE - The International Society for Optical Engineering are launching the second national symposium on the impact of technology on health care costs, to be held on May 10-12, 1995 in Washington, D.C. The gathering will bring together federal policymakers and health care technology professionals to investigate how technology can help provide better services at lower cost.

Next year's conference, "The Role of Technology In the Cost of Health Care: Providing the Solutions," will offer cost-effective answers to health care system dilemmas examined closely by the first conference, held this spring. Program sessions will address such issues as using technology to identify and control health care costs; the impact of regulation on costs; the federal government's health care technology assets; and modeling of the health care delivery system. For registration, contact Susan Carroll of SPIE at 206-676-3290 (telephone), 206-647-1445 (fax), or susanc@spie.org (e-mail).

IEEE PRESS AND CRC PRESS ANNOUNCE MAJOR PUBLISHING AGREEMENT

PISCATAWAY, N.J., Sept. 30 -- In the first multi-book, co-publishing agreement between the IEEE Press and a major publisher, the IEEE has agreed with CRC Press of Boca Raton, Fla. to co-publish a series of 15 technical handbooks.

The series, which will highlight practical electrotechnology applications, will be developed and published over the next three years. It will include the IEEE's best-selling handbook, "The Electrical Engineering Handbook," edited by Richard Dorf, CRC's series editor for all engineering handbooks, an IEEE fellow and former member of the IEEE Press Editorial Board.

IEEE Fellows and senior members will write most sections of the books. Each manuscript will be reviewed by a panel selected from the IEEE Press Editorial Board and IEEE Society representatives, as well as independent experts.

The handbooks will provide comprehensive and practical information to engineers at all levels and to students. Each volume will contain between 1,500 and 2,700 pages of text and will range in list price from \$99.95 to \$149.95. IEEE members will receive a discount off list prices when the books are ordered directly from the IEEE or at an IEEE conference. All of the CRC Press books co-published or approved by the IEEE will be printed with the IEEE Press logo on the covers.

"IEEE Press has been seeking compatible publishing partners for two years. With the CRC Engineering Handbooks, we've found a near-perfect partner in their careful selection of editors, contributors and topics. Everybody, but especially our members, are winners in this agreement," says Dudley Kay, director of IEEE Press Book Publishing.

CRC Press, a subsidiary of Times Mirror Corporation, is a leading publisher of professional-level books in science and technology. It publishes approximately 400 new books each year and has an active backlist exceeding 3,800 titles.

STUDENTS WILL DESIGN FUTURE CITIES IN THIRD ANNUAL CONTEST

WASHINGTON, DC, Oct. 14 --Savvy middle-school students in seven U.S. cities will take on traffic congestion, crime and pollution when they design 22nd-Century urban centers for the National Engineers Week Future City Competition. The third annual competition will introduce students in Atlanta, Chicago, Dallas, Detroit, Los Angeles, Milwaukee and New York City to the excitement of engineering as youngsters work with real engineers on practical applications of math and science.

According to Les McCraw, chairman and CEO of Fluor Corporation and honorary chair of National Engineers Week 1995: "The National Engineers Week Future City Competition introduces students to engineering: practical problem-solving through technology, teamwork and design. They're able to apply math and science in a fun, hands-on program."

Teams consist of three 7th and 8th grade students, assisted by both a teacher and engineer volunteer. Teams will use award-winning SimCity Classic software and Future USA graphics package provided by Maxis to design their cities on computer. Then the youngsters will use a blueprint to build a scale model of a city section, and write an essay describing how they will encourage residential and industrial recycling in their cities. Students will aim to create urban centers that are environmental- and people-friendly, cost-effective and energy-efficient. Judges will evaluate their projects on creativity, city layout and beauty.

Teams will compete in local contests in January, 1995. Local winners will earn trips to Washington, D.C., for the national finals, to be held during National Engineers Week, Feb. 19-25. The national student-winners will receive a trip to U.S. Space Camp in Huntsville, Ala., donated by Fluor Corporation.

Interested schools and engineer volunteers in the seven participating metropolitan areas can register for the competition with local coordinators. For more information, contact IEEE Corporate Communications in Washington, D.C. at 202-785-0017.

National Engineers Week is an annual celebration designed to increase awareness and appreciation of the engineering profession. The IEEE, through its United States Activities division, IEEE-USA, is one of more than 50 organizations sponsoring National Engineers Week 1995.

IEEE-USA HONOREE REP. SAM GIBBONS PLACES ECONOMIC SECURITY ISSUES AS TOP CONGRESSIONAL PRIORITIES

Washington, D.C., Oct. 14 -- Rep. Sam M. Gibbons, acting chairman of the U.S. House Ways and Means Committee, believes the next Congress should address the concerns of Americans who increasingly lack security in their jobs, health care and retirement. Gibbons discussed legislative priorities Oct. 3 during a U.S. Capitol reception sponsored by the world's largest technical professional association. The United States Activities division of the IEEE presented Gibbons with its distinguished public service award for the Congressman's leadership on behalf of workers' interests, particularly pension access and portability.

"Over the past several years we have witnessed major structural changes in the U.S. economy and the workplace," said Gibbons. "While commending the resulting improvements in American economic competitiveness, we also need to confront the dislocations aggravated by this process. In particular, we need to expand American jobs through the opening of world markets, increase access to health care coverage, and bolster retirement security for all Americans. I will continue to press for incremental solutions to these problems and work to obtain bipartisan support for appropriate legislation in the next Congress," he said.

IEEE Vice President for Professional Activities, Charles K. Alexander, Jr. thanked Gibbons for more than 30 years of leadership on workers' issues, citing his contributions toward the establishment of Medicare, the Employment Retirement Income Security Act (ERISA), and improvements in financing Social Security.

According to Alexander, "Representative Gibbons was selected for this award for his sponsorship of legislation to increase the portability of pension benefits for mobile American workers, including engineers and scientists, in each of the last two Congresses."

IEEE 1995 CINCINNATI SECTION BALLOT
Election of Officers for Term
Beginning 1/1/95 and Ending 12/31/1995

CHAIRMAN

☐ Steve Olenick ☐ Write - In _____

VICE - CHAIRMAN

☐ Bob Haas ☐ Write - In _____

SECRETARY

☐ Mark Reineck ☐ Write - In _____

TREASURER

☐ Orest Melnyk ☐ Write - In _____

MEMBER - AT - LARGE

☐ Bill Jarzembskinick ☐ Write - In _____

PACE REPRESENTATIVE

☐ Bill Lohner ☐ Write - In _____

Please vote for only one candidate in each office. Resumes of each candidate can be found on the Page of this newsletter. Please return the ballot by:

JANUARY 1, 1995

Mail ballot to: Mark Reineck
1150 Forrest Run Road
Batavia, Ohio 45103

RESUMES OF CANDIDATES

CHAIRMAN (STEVE OLENICK)

BSEE 1972, Youngstown State University; MSEE 1976, Fairleigh Dickinson University; Graduate courses at NJIT; Product Line Manager, Cincinnati Electronics Corp.; Member of AFCEA and the IEEE; Organized Professional Development Seminars for the Fort Monmouth AFCEA Chapter; Published/Presented at MILCOM 86 and TCC 92; One Patent; Prior employments include CMC Electronics, ITT Avionics and the U. S. Army CENCOMS lab.

VICE-CHAIRMAN (BOB HAAS)

BSEE, University of Cincinnati, 1955; MBA, Xavier University, 1972; PE, State of Ohio; Retired from CG&E as Section Head, System Protection Engineering; Director, Engineers and Scientists of Cincinnati (ESC); Past Chairman/Member of various IEEE Committees to Develop Standards and Guidelines; Member of Power System Relay Committee, IEEE; Author of three Technical Papers.

SECRETARY (MARK REINECK)

Mark has worked in factory and warehouse automation since 1981 for Tipnis, Inc., The G. A. Gray Co., The Buschman Co., and most recently Automation Software Consultants, Inc. ASCI, founded by Mark in 1989, provides industrial control software and packaged local area networking tools. Mark received a BSEET from the University of Cincinnati College of Applied Science, and has served on the Executive Committee of the Cincinnati chapter of the IEEE since 1991.

TREASURER (OREST MELNYK)

BSEE 1980 and MBA (Finance) 1985, University of Cincinnati; Manager Network Planning, Cincinnati Bell, ESC Board Member; Past position as IEEE Cincinnati Section Chairman, Vice- Chairman, Member-at-Large, Treasurer (Incumbent), Arrangements Chairman, Programs Chairman.

MEMBER-AT-LARGE (BILL JARZEMBSKI)

Resume not available at press time.

PACE REPRESENTATIVE (BILL LOHNER)

BSEE, University of Cincinnati, 1955; retired from CG&E as Section Head, Subsystems Engineering; Worked at CG&E 41 years; Past Chairman, Vice-Chairman, Secretary plus other Section Offices; Editor on Section Newsletter for 10 years; Member of Executive Committee.

Dee Scott (call for meeting reservations)	385-9446
Jim Everly - Chairman	777-7129 (Home)
	556-4224 (Fax)
	556-4241 (Office)
Steve Olenick - Vice Chairman	573-6555
Orest Melnyk - Treasurer	565-2549
Mark Reineck - Secretary	753-6290
Jack Beckmeyer - Arrangements Chairman	353-2643
Bob Morrison - Editor	287-3697 (Office), 287-3698 (Fax)

NOVEMBER/DECEMBER 1994

IEEE CINCINNATI SECTION NEWSLETTER



**The Institute of Electrical and
Electronics Engineers, Inc.
C/O Dee Scott
7780 Hackney Circle
Maineville, Ohio 45039**

DATED MATERIAL
Please deliver promptly